

II A NEW SPECIES OF CICHLID FISHES OF RIVERS QUANZA AND BENGU, ANGOLA, WITH A LIST OF THE KNOWN CICHLIDAE OF THESE RIVERS AND A NOTE ON *PSEUDOCRENILABRUS NATALENSIS* FOWLER

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ABSTRACT

A species of the tilapiine genus *Sarotherodon*, formerly confused with other species, is described. An annotated list of the cichlid species of Rivers Bengo and Quanza is added, from which it appears that the cichlid fauna of the Bengo and Lower Quanza is related to that of the Chiloango and Ogowe, but that of the Upper Quanza to the Zambezi basin and R. Cunene, southern Angola.

The holotype of *Pseudocrenilabrus natalensis* is a specimen of *Chromis philander* Weber. Reasons are given for agreeing with Wickler that it is related to *Chromis multicolor* Hilgendorf and that both are generically distinct from *Haplochromis*. *Pseudocrenilabrus* is their earliest valid generic name.

GOOD samples of the species about to be described have been in the British Museum (Natural history) since 1910 as part of the collections of Dr W. S. Ansorge, but were not recognised as distinct from *Tilapia flavomarginata* Boulenger (= *S. schwebischi* (Sauvage)) and *S. andersonii* (Castelnau), species with respectively a more northern and more southern distribution. Parts of Ansorge's collections of this species were sent to the Academy of Sciences, Philadelphia, and to the Vienna Museum, where they were also catalogued under the names *T. andersonii* and *T. flavomarginata*. A still earlier collection had been made by the American Eclipse Expedition of 1889, and in his report on this collection Fowler (1919) recorded this species as *T. andersonii*.

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The generic assignment

I use the name *Sarotherodon* Rüppell, formerly recognised as a subgenus of *Tilapia*, at generic level for reasons given on p. 20 above.

Sarotherodon angolensis sp. n.

Plate I

Tilapia flavomarginata (partim, nec Boulenger 1899); Boulenger, 1910 : 560 (Rivers Quanza and Bengo).

Tilapia andersonii (partim, nec Castelnau); Boulenger, 1911 : 415 (part of syn. *flavomarginata*)

only); id. 1915 : 171 (nos 26-38 only); Fowler, 1919 : 248 (R. Quanza at Cunga); id. 1931 : 81 (R. Quanza at Cambambe).

Tilapia (Loruwiala) angolensis Trewavas in Thys van den Audenaerde, 1968 : xxxvi (*nomen nudum*).

LOCAL NAME: cacusso.

HOLOTYPE: ♂ of SL 196 mm from R. Quanza at Cambambe, coll. W. J. Ansorge. BMNH 1911.6.1.140.

PARATYPES: 27 specimens comprising 12 ♂♂, 6 ♀♀ and 9 juveniles, of SL 43-204 mm from the lower Quanza at Cambambe and Cunga, collected by W. J. Ansorge in 1910 and W. H. Brown in 1899. These are in the collections of the BMNH the Vienna Museum, the Philadelphia Academy of Natural Sciences (all collected by Dr Ansorge) and in the U.S. National Museum (collected by W. H. Brown). See p. 27.

NATURAL DISTRIBUTION. Known from the lower reaches of the Quanza and Bengo only. In R. Quanza there are no verified records from above the cataracts of Cabulo, at Cambambe, about 6-8 miles above Dondo.

DISTINGUISHING CHARACTERS. A *Sarotherodon* with high numbers of gill-rakers, 21-26 on the lower part of the anterior arch; a lower pharyngeal bone with slender crowded teeth and a long anterior blade; a tasselled genital papilla in both sexes, longer in the male. Distinguished from other such *Sarotherodon* species by the colour pattern of mature individuals, in which the vertical fins and the pelvics bear small round white spots; in males in addition each scale of 8-11 longitudinal rows bears a bright silver spot (colour in alcohol). There is sexual dimorphism also in the teeth, the outer lateral of both jaws becoming unicuspid and slightly enlarged in mature males.

DESCRIPTION of the holotype and paratypes and of two specimens from the lower Bengo at Cabiri and three from Lake Panguila near the mouth of R. Bengo, in all 32 specimens of SL 43-204 mm.

Proportions as % SL

Depth of body 38.0-44.0.

Length of head 33.3-36.0.

Length of pectoral fin 37.5-44.0 (35 at SL 43-46 mm.)

Length of last dorsal spine 16.0-20.0 (14 at SL 43 mm).

Length of third anal spine 13.0-17.5.

Length of caudal peduncle 12.5-15.3 (0.8-1.0 of its depth).

Proportions as % length of head

Length of snout 31.0-35.5 (30 at SL 43 mm).

Diameter of eye 20-26 at SL 90-204 mm, negatively allometric; 27-30% at SL 83 and 43 mm.

Depth of preorbital 18–22 with very little allometry with the head length at SL 100–204 mm, approximately equal to eye between 140 and 204 mm.
Interorbital width 37–40.5 at 100–200 mm SL, 33–36.5 below this length.
Length of lower jaw 29.3–34.0, with no difference correlated with age or sex.
Width of mouth 27–34.

Profile of snout descending in a straight line. Dorsal and anal fins with bases ending at the same vertical or anal a little more posteriorly (in contrast to most species, in which if either fin is posterior it is the dorsal).

Teeth of jaws in 4–6 series at SL above 140 mm, 3–4(5) below this length; 60–92 in outer series of upper jaw at SL 100 mm or more, often fewer below this length; outer bicuspid in females and young, but in mature males the lateral teeth in both jaws become unicuspid and a little enlarged and spaced; inner teeth tricuspid. The bicuspid teeth have slender shafts, spoon-shaped major cusps and small minor ones.

Gill-rakers on first arch (2–5) + 1 + (21–26). Microbranchiospines present on the outer sides of 2nd, 3rd and 4th arches.

Length of lower pharyngeal bone 37–40% of length of head, width 28.5–31%; teeth very fine and densely crowded, the toothed area with broad rounded lateral lobes and a short narrow apex; blade 1.3 to nearly twice the median length of the toothed area.

Vertebrae 29 (in 3 specimens).

Scales on cheek in 2–3 series; in lateral line series 29 (f. 1½), 30 (f. 19), 31 (f. 7½), or 32 (f. 1); between origin of dorsal and lateral line 3½ (f. 1), 4 (f. 20), 4½ (f. 7) or 5 (1); between bases of pectoral and pelvic fins 4–5, moderately small on chest but not very small on belly.

Dorsal XV 12, XVI 11–12 or XVII 11; modal combination XV12 (in 15 of 33 specimens). Total rays 27 (f. 26) or 28 (f. 7).

Anal III 8 (f. 1), III 9 (f. 12) or III 10 (f. 15).

Pelvic produced to a short filament, in mature fish reaching anal spine. Caudal slightly emarginate.

Genital papilla in immature male bluntly bifid, in mature male with lobes, filaments and tubercles in two bunches, about 1 cm long. Posterior border of female papilla also tuberculate, but not as long as in male.

Colour in alcohol shading from light brown above to white on the belly. In mature ♂ each scale of 8–11 longitudinal rows below the upper lateral line with a bright silvery spot. In both sexes in mature and maturing fishes conspicuous small round white spots appear on the dorsal, caudal and anal fins and on the pelvics; on the caudal also some dark spots. Male with white lower lip and narrow white (red in life?) upper edge of soft dorsal fin.

Bionomics. No data. Other species with tasselled genital papilla are maternal mouth-brooders. Near-ripe ovarian eggs in one specimen measure 3 mm in long diameter.

AFFINITIES. Thys (1968: xxxvi) in publishing this name and attributing it to me, placed it in his subgenus *Loruwiala* (type *S. macrochir* Boulenger), characterised by the presence of a genital tassel in the male. This is the only character by which

he distinguished *Loruwiala* from subgen. *Nyasalapia* Thys (op. cit. p. xxxv) whose type species, *S. squamipinnis* (Günther), and all others listed also have a genital tassel in the male and are I believe closely related to *S. macrochir*. I would consider *Loruwiala* and *Nyasalapia* to be subjective synonyms and propose to use the latter as the valid name.

Whether the genital tassel is a sufficient sign of close relationship I am not quite sure. In the case of *S. macrochir*, *S. rukwaensis* (Hilgendorf) and the species-group of *S. squamipinnis* we have other evidence of interrelationship, but *S. upembae* Thys and *S. variabilis* Boulenger are more remote both structurally and geographically. As I show below, the cichlid fauna of the lower Quanza and Bengo lacks certain widespread species of the upper Zambezi and Upper Zaire and has two species of *Tilapia* in common with the Chiloango and Ogowe. The *Sarotherodon* of these rivers is *S. schwebischi*, but although Thys puts it in *Loruwiala* I have seen no specimen with a genital tassel. *S. lepidura* Boulenger of the Lower Zaire (Congo) is a tasselled species, but otherwise shows no special resemblance to *S. angolensis*. There seems nothing better to do than to place *S. angolensis* with the tasselled *Sarotherodons* while admitting that it is such a distinctive species that it throws some doubt on the presence of a tassel as a necessary indicator of relationship.

MATERIAL EXAMINED

Museum & reg. no.	SL (mm)	Locality	Collector
Vienna Museum 24679-83 paratypes	2 ♂♂ 169, 204 3 imm. 87.5-106	R. Quanza at Cambambe	W. J. Ansorge
BMNH 1911.6.1 140-142 holotype & paratypes	♂ 196, 2 ♀♀ 138, 198	"	"
BMNH 1911.6.1 143-147 paratypes	43-177 (2 ♂♂, 1 ♀, 2 imm.)	R. Quanza at Cunga	"
USNM 42323/327 42324/328-9 42325/330-335 paratypes	148 141, 157.5 125.5-150.5	"	W. H. Brown Eclipse Expedn.
Philadelphia Academy 37976-81 paratypes	46.5-155	R. Quanza at Cambambe	W. J. Ansorge
BMNH 1911.6.1 138-9	191, 195	R. Bengo at Cabiri	"
BMNH 1911.6.1 148-150	90-130	Lake Panguila R. Bengo	"

CICHLIDAE OF RIVERS BENGO AND QUANZA

Cichlidae have been collected in R. Bengo from Lake Panguila near the coast and Lake Rumanga at Cabiri. In the Quanza system they were taken at Cunga and Cambambe, both localities downstream of the rapids at Cabulo, and also from 'R. Luculla' (=Lucala), a tributary entering the lower Quanza from the North. In

addition the Gray African Expedition collected at Chouzo on the Upper Quanza (ca. 11°48'S 17°30'E) and in the Luce River, a tributary of the Upper Quanza, and these fishes were reported on by Fowler (1931; Cichlidae pp 44-46). I have examined the Gray Expedition's fishes and find that Fowler's determinations as *T. cabrae* and *T. lucullae* were both mistaken. The determinations by Gianferrari (1932) of three cichlid species from the "alto corso dei Quanza" are, even on her own evidence, mistaken. Dr Cagnolaro of the Milan Museum informs me that the collections of the Baragiola-Durini expedition, on which her report was based, were destroyed during the second world war, so I omit her records.

R. BENGO

Tilapia cabrae Boulenger, 1899a: 51 pl. xxvii (type locality Chiloango).
Synonyms *T. haugi* Pellegrin, 1912: 274 pl. i (Ogowe) and *T. ngomoensis* Pellegrin, 1913: 274 (Ogowe).

Reported from R. Bengo by Boulenger, 1915: 194, and Fowler, 1931: 46.

The Angolan samples have a somewhat coarser pharyngeal dentition than those from the Ogowe and Chiloango and in them the dorsal spines number XIV-XVI, mode XV, as against XVI-XVII, mode XVI, in those from the localities North of the Zaire (Congo).

Sarotherodon angolensis (see above).

R. LUCALA

Haplochromis lucullae (Boulenger, 1913: 483; 1915: 224 fig. 146). Recorded from this river, the type locality, by Boulenger (l.c.) and by Fowler (1931: 44). Regan (1922) synonymized it with *H. acuticeps* (Steindachner), but the types of this species, which I have seen, have some of the pharyngeal teeth enlarged and blunt while those of *H. lucullae* are all slender and pointed. *H. acuticeps* has 32-33 scales in the lateral line series, *H. lucullae* only 31. *H. lucullae* seems to be closely related to *H. schwetzi* Poll, 1967, of R. Kwango, Angolan Zaire (Congo) system.

H. multiocellatus (Boulenger, 1913: 484; 1915: 409 fig. 278). The holotype, a specimen of 98 + 24 mm, resembles *H. acuticeps* (Steindachner) in having some enlarged teeth in the pharynx and 33 scales in the lateral line series. The outer teeth of the jaws are all unicuspid, but a few have a minor cusp represented by a shoulder. In the types of *H. acuticeps*, all of which are smaller, the outer teeth are bicuspid, but the difference may be a matter of age. Both have only one row of inner teeth, though *H. multiocellatus* has a few of a second row in the lower jaw, and in this they differ from *H. thysi* Poll, 1967, of R. Kasai system. The locality of *H. acuticeps* was given no more precisely than "Angola" and I am inclined to think that *H. multiocellatus* is its synonym. The one specimen from R. Lucala retained by Boulenger (1915: 218) as *acuticeps* is a young *H. lucullae*.

LOWER QUANZA

Hemichromis fasciatus Peters, 1858. A widespread species. Coll. Ansorge at Congo, and reported by Boulenger (1910, 1915).

Tilapia guineensis (Bleeker in Günther, 1862 : 271). Type locality Ghana (Gold Coast). Two specimens in the BMNH were collected by Anson at Cunga in 1910 and recorded as *T. melanopleura* by Boulenger (1910 and 1915) and eight were taken by W. H. Brown of the American Eclipse Expedition, also at Cunga, and recorded by Fowler as *T. andersonii*. I determine these now as *T. guineensis* rather than any other species because of the shape and size of the lower pharyngeal bone, which contrasts with the stouter bone of *T. rendalli* Boulenger, the species inhabiting the inland waters of Angola and the Zambezi system. The bone is, however, a little heavier than that of the populations of the lagoons bordering the Gulf of Guinea and the fins, which are damaged, do not seem to have been as long as they characteristically are in the region of the type-locality.

Tilapia cabrae Boulenger. Specimens in the BMNH, the Philadelphia Academy of Sciences and the U.S. National Museum from Cunga and Cambambe.

Sarotherodon angolensis

UPPER QUANZA AT CHOUZO

Pseudocrenilabrus philander (Weber, 1897).

Two specimens recorded as *T. cabrae* by Fowler (1931 : 46) and 17 recorded by Fowler (t.c. p. 44) as *T. lucullae* prove to be referable to this species, which is widespread in the upper tributaries of the Zaire (Congo), throughout the Zambezi system, in the Lake Malawi basin (but not in the lake), Lake Chilwa, the Limpopo system and the rivers of Natal and Zululand, R. Cunene, R. Okovango (Cubango) and the sink-holes of Southwest Africa (see also next page).

Tilapia sparrmanii A. Smith, 1840.

The Gray African Expedition brought 151 specimens of this species from Chouzo. It has almost the same distribution as *P. philander* and the two species are commonly found together. Only in the sink-holes of Southwest Africa (Lakes Guinas and Otjikoto) is it replaced by *T. guinasana*. All the Angolan localities recorded by Poll (1967) are on the Cassai and Cuango of the Zaire (Congo) system and on the upper Zambezi. Boulenger (1915 : 207) listed examples from the Cunene system (R. Que) and Fluilla (probably = Huila, Mossamedes).

Tilapia rendalli Boulenger.

Two specimens in the Philadelphia Academy collected by the Gray Expedition.

These three species (*P. philander*, *T. sparrmanii* and *T. rendalli*) were mistakenly listed by Fowler as "a large series of over 100 examples" of *T. cabrae*.

Serranochromis macrocephalus (Boulenger 1899b).

13 specimens collected by the Gray African Expedition are in the Philadelphia Academy and were recorded by Fowler (1931 : 44) as "*Tilapia acuticeps* (Steindachner)". They measure 106-170 mm in SL and have a dorsal formula of XIV-XV 12-14. This species also has a wide distribution in southern Africa, from the Cunene system, the Cubango and Okovango, Upper Zambezi and Kafue to Lake Mweru (see Trewavas, 1964 : 29-33).

LUCE RIVER, entering Upper Quanza at about 10°15'S 16°35'E.

Pseudocrenilabrus philander (Weber, 1897), recorded by Fowler (1931) as *Tilapia lucullae* Blgr.

Ladiges (1964) divided Angola into five zoogeographical provinces:

- (1) Angola Province—rivers north and west of the watersheds
- (2) Kasai (Cassai) district
- (3) Cunene system
- (4) Ngami basin with Okovango-Cubango
- (5) Zambezi basin

As far as the cichlids are concerned, provinces (3-5) may be bracketed together. The Bengo and Lower Quanza belong to Province (1), but the Upper Quanza is evidently part of (3-5). Marquardson (1920 : 39) refers to the interdigitating of the sources of the Quanza and Cubango. The courses of the Quanza and its tributaries are punctuated by falls and rapids until finally at Cambambe the Cabulo cascades mark the upper limit of navigability. Whether the division between the two faunas is at the same point can be known only after further ichthyological exploration.

Ladiges (1964) and Poll (1967) remark on the high degree of endemicity in the fish fauna of the Angolan Province. The recognition of *Sarotherodon angolensis* and the differences between the Angolan populations of *Tilapia cabrae* and those of more northern rivers reinforce this observation.

THE IDENTITY OF *PSEUDOCRENILABRUS NATALENSIS* FOWLER

Fowler, 1934 : 462, 463, fig. 36.

When I was visiting the Philadelphia Academy of Sciences in 1963 Dr J. Böhlke told me that he believed the holotype of this nominal species to be a cichlid. I examined it and found it to be a specimen of *Chromis philander* Weber, 1897, usually known as *Haplochromis philander*. Dr Jubb, to whom I communicated this opinion, has commented on its implication (1971) and his comments will be considered below.

The type (ANSP no. 55175) is a ♀ of 59+17 mm collected by Mr H. W. Bell-Marley near Durban, 1929-32.

Proportions as % SL: depth 33.8, length of head 37.2, length of pectoral fin 26.2, of caudal peduncle 14.6 (1.2 times its depth).

Proportions as % length of head: diameter of eye 29.0, depth of preorbital 15.5, interorbital width 21.0, length of lower jaw 45.4, of premaxillary pedicels 34.1.

Teeth in 5 series, the outer all bicuspid (*pace* Fowler), although the minor cusp is very small; inner tricuspid; 44 in outer series of upper jaw.

Gill-rakers on first arch 3 + 1 + 8, triangular or square in shape. Pharyngeal teeth compressed, pointed, each with a major and a minor cusp or shoulder, a pair of middle posterior a little stouter than the rest.

Scales on cheek in 3 series, in lateral line series 29.

Dorsal XV 10. Anal III 9.

In comparing this with other samples of *Ps. philander* the size of the jaw is striking. Although since I proposed to recognize three subspecies (Trewavas, 1936), more variation has been found in the mouth-size of the populations then named *Ps. philander*

dispersus, the biggest mouths are still those of the southeastern samples belonging to the nominate subspecies.

Generic assignment

Although *Chromis philander* has long been included in *Haplochromis*, Wickler (1963) has proposed to transfer it to *Hemihaplochromis* Wickler, 1963, of which *H. multicolor* Hilgendorf is the type species. If these two species are held to constitute a distinct genus its name must be the earlier *Pseudocrenilabrus*.

This involves two decisions—(1) to recognize intrageneric relationship between *multicolor* and *philander* and (2) to distinguish both of them generically from *Haplochromis*.

Haplochromis as at present constituted includes over 150 species in Lake Victoria because of their evident close inter-relationship as a flock that includes *H. obliquidens*, the type species. *H. obliquidens* is not the most generalized of this flock, but among the more generalized members of it are some with obvious affinity to the *Haplochromis* of the rivers of Tanzania and Uganda, including *H. pectoralis* Pfeffer, type species of *Ctenochromis* Pfeffer, which is therefore considered a synonym of the earlier name *Haplochromis*.

Within their endless diversity the species of *Haplochromis* have almost universally in common a feature of the colour-pattern, the well-known ocellar spots on the anal fin of the male. In some species these may be present in the female too. Dr R. Welcomme showed me some ripe female *H. nubilus* with well-developed orange anal ocelli and I have seen ripe females of *H. bloycti* as well as males with the same.

Such yellow, orange or orange-red spots are so characteristic of *Haplochromis* that as mere structures (and quite apart from their function) they are impressive indicators of relationships. *Ps. multicolor* and *Ps. philander* have no such spots, but instead have an orange* or scarlet tip to the anal fin. This is not, to human eyes, a very conspicuous spot and in *philander* is neither the same colour nor the same size as the eggs.

Wickler (1962 a & b) has shown that the ocellar spots of male *Haplochromis* are treated by the female exactly as if they were her newly laid eggs. No one who has seen Wickler's film of *H. burtoni* can doubt that the female has indeed mistaken them for eggs and is trying to pick them up to add to the clutch already in her mouth. In so doing she takes the sperm-laden water around the male's genital papilla and doubly ensures the fertilization of the eggs in her mouth. For this reason Wickler calls the spots "eggdummies" or "egg-spots", but his objection (1962) that they should not be called ocellar spots because their function is not to be mistaken foreyes is not valid. This epithet is simply descriptive of spots (in many animals) that to us resemble eyes because they are ringed, and we continue to use it as a descriptive term.

The male *Haplochromis* reinforces this deception by spreading his anal fin in front of the female.

* Orange in *multicolor* according to Wickler, but bright red according to Sterba (1959 and 1962).

In *Ps. multicolor* also the female mouths the water near the male's genital papilla and anal fin. But the male extends his anal fin without spreading it (Wickler, 1963 : 91; Zukal, 1971 : 10). According to Wickler he opens it just enough to make the orange tip of the fin the same size as the eggs! In *Ps. philander* the scarlet tip is surely too small to be taken for an egg. In Ribbink's account (1971) of the spawning of this species (probably the Natal population) he states that both dorsal and anal have black leading and orange trailing edges. No apical spot is mentioned and far from showing interest in the tip of the fin the female appeared to be guided by the concave spread of the fin and its series of dark spots to snap up sperm close to the male's genital papilla.

The basic fact is that in several (perhaps all) mouth-brooding cichlids that pick up the eggs immediately after they are laid the female snaps at the sperm-laden water near the male's papilla as soon as she has the eggs in her mouth. In some, perhaps all, these species movements of the male's anal fin provide a visual attraction and perhaps limit the dispersal of the sperm. In certain groups—*Haplochromis*, the tasselled *Sarotherodon*, species with a white or yellow genital papilla, *Ps. multicolor* but perhaps not *Ps. philander*—different devices have evolved reinforcing this action by using the peak of the female's urge to pick up the egg to deceive her into active drawing of the sperm into the mouth.

It is the fact that the same end has been achieved by the use of different colour-markings in *Haplochromis* and *Pseudocrenilabrus* that is the main justification for our use of the generic division. Supporting reasons are more difficult to define. Not only the anal fin but the whole colour scheme of the genera is in contrast. It has been described in the publications of Greenwood (*Haplochromis*) and in the aquarium literature (*Pseudocrenilabrus*) and is well illustrated in the black-and-white figures 1 and 2 of Wickler (1963). The caudal fin is well rounded in *Pseudocrenilabrus*, usually truncate or truncate with rounded corners in *Haplochromis* (emarginate in Malawi species, but these constitute a distinct group).

Both species of *Pseudocrenilabrus* have 28 vertebrae and, like *Haplochromis*, a well-marked facet for the upper pharyngeals in which parasphenoid and basioccipital contribute approximately equal parts.

Structural differences between *Ps. multicolor* and *Ps. philander* are especially the wider interorbital region and smaller mouth of *Ps. multicolor*.

Both species have wide but complementary distributions. *Ps. multicolor* in the Nile, in the streams and swamps of Uganda, round the shores of Lake Victoria and (personal comm. P. H. Greenwood) the shallow, reed-fringed Kazinga Channel between Lakes Edward and George and occasionally at the shore of Lake George. *Ps. philander* is a species of backwaters, swamps and shallow lagoons in the Zambezi, Limpopo and upper Zaire (Congo) basins, in the river-systems of Natal and Zululand, the Orange River* basin and in the sink-holes of Southwest Africa. In their respective areas they have no close relations, they do not live a truly lacustrine life nor give rise to species flocks. Where in the Lake Malawi basin *Ps. philander* is

* *Ps. philander* and *Tilapia sparrmanii* live together here (Jubb & Farquarson, 1961 : 119) including the Kuruman area, the type locality of *Chromis moffattii* Castelnau, which I dismissed as a *species dubia* in 1936 because the size given was much greater than that of any known *Ps. philander*. This is still true.

found in lagoons together with *Haplochromis callipterus*, the *Haplochromis* enters the lake and lives around its shores, but the *Pseudocrenilabrus* will not.

Neither *Ps. multicolor* nor *Ps. philander* has been found in the Lake Tanganyika basin nor in the Middle or Lower Zaire (Congo), in the lower reaches of any Western rivers North of the Cunene nor in any part of the East African eastern drainage north of the Zambezi (if Lake Chilwa be excepted with its tenuous connection with the Rovuma via Lake Chiuta).

I sympathise with Dr Jubb's reluctance (1971) to use a cumbersome and rather inappropriate name for this pretty little *philander*, but it must share with the wren the burden of the rules of nomenclature.

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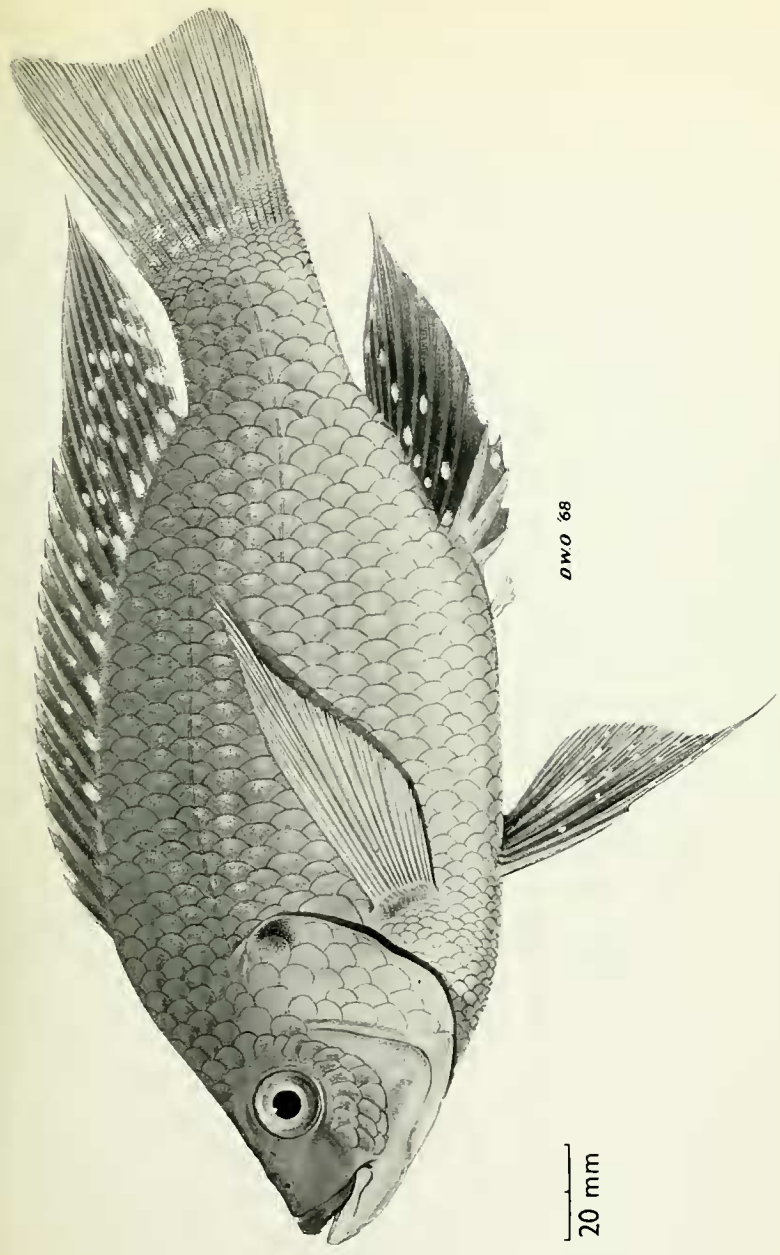
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PLATE I

Sarotherodon angolensis, holotype



DWCO '68

20 mm